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GRASSLAND MANAGEMENT*

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The importance of grass looked upon as a crop is threefold. First, grassland provides the background of our pastoral agriculture. In the lowlands of England and Wales, grasslands, including permanent grass and leys, total some 14,000,000 acres or 56 per cent. of our farmlands. If we include rough and hill grazings two-thirds of the land surface of England and Wales is under grass. The proportion in Scotland and in Ireland is even higher. The grass crop is, therefore, our most important single crop from the viewpoint of acreages occupied.

Grass is also important in that it provides for the basic needs in feeding our livestock. It is clearly a food of very high value to the ruminant animal and, from the farmer's point of view, it is by far the cheapest food he can give his animals.

In the third place, the grass/legume sward is important because of its value in building up soil fertility. We have, therefore, three very good reasons why we should take an increasing interest in our grasslands. First, because of the area occupied by the crop; secondly, its value for stock feeding, and, thirdly, its value in fertility building. There is a fourth reason why it is imperative that we should take a special interest in grassland, for there is no part of our agriculture where the farming is done less well than on grass. Put another way, we have a whole lot of bad grassland right through Britain and this applies to the leys as well as to permanent grass. In times such as the present, when the nation needs higher production and, particularly, is demanding more meat and other animal products, it is a first necessity that we should do everything to improve our grasslands, to increase their output and to provide the meat and other products which the consumer demands.

If present-day technical knowledge was put into operation on every farm in the country we could double our population of both sheep and cattle, maintain our present dairy herd, as well as increase our pig and poultry population above 1951 levels. To do this we would need greatly to improve the output from existing grasslands. We would need also to take the plough round the farms very much more than we do at present. We would need, also, to reverse the balance of permanent grass to leys and grow more corn per acre on arable land. I fully realise the practical difficulties involved, but if the farmers of this country were all farming their land to the standard attained at present by the best farmers then not only would we grow more corn on fewer acres, but we would double our livestock.

I cannot, at this time, follow this argument further except to say that all this is technically possible and, most important, to emphasise that the grass/legume ley is the pivotal crop around which such a development must take place. It is no use shutting our eyes to the fact that the vast acreage of permanent grass throughout Britain is at a low ebb of production. In a survey of the grasslands of England and Wales, which we conducted just before the war, we found that of the then 16,000,000 acres of permanent pasture in England and Wales only some 1½ per cent. was really first class and "pulling its weight." Even if you added up the "good" and "moderately good" permanent grassland it amounted to no more than one-third of the whole. In fact, practically 70 per cent. of our total pre-war grassland was nothing less than derelict—and I emphasise the word "derelict." In a more recent survey of a similar nature we found that although the total acreage of permanent grass is now about 10,000,000 acres (that is, reduced by nearly 6,000,000 acres), yet the proportion of poor grassland to good is still the same.

We have in England and Wales 10 acres of permanent grass for every 3 acres under ley and until we reverse these proportions we cannot truly say that we are ley farming and we cannot claim to be producing at high level from our grasslands. Many of the 3,000,000 acres under ley are producing poorly. Far too many so-called leys are badly conceived, either because of the use of a poor seeds mixture, or because they lack adequate manuring or are badly utilised. Very often all three factors work together and the result is a thing which goes by the name of "ley" but the name in this context is wholly misleading. What I mean by *a ley is sown pasture which is producing at high level and doing that from year to year and for a long season of the year.* Good leys ought to be producing well over 4 tons of dry matter per acre and they should do that over some eight to nine months of the year, from March to November.

Apart from its value in high production, the ley has another important attribute, namely, it has a degree of flexibility in management and in use which is absent in permanent grass. By the proper exploitation of the ley the use of properly planned seeds mixtures and with adequate manuring there is no reason whatever why the seasonal effects of spring and summer drought should not be entirely offset. When you are dealing with permanent pasture there is no such flexibility and the production of grass must be completely seasonal.

I want to make this further point, namely, that the better the grass the more stock can be carried and the greater the benefit that accrues to the soil. In other words, high production in a crop such as grass, which is consumed *in situ* on the field, means an ever-increasing standard of fertility in the soil itself, fertility which can either be used to grow more and better grass or be "cashed" to produce heavier yields of arable crop.

I make note of the comparison between permanent grass and the leys because some in the veterinary profession have become critical of the development of ley farming in this country. You are quite right to be critical, for when a profession such as yours makes statements, we in the field of grassland production are bound to take note of your views. I, therefore, welcome your criticisms but that is not

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to say that I always agree with your deductions. For example, in relation to hypomagnesaemia, sterility, bloat, and so on, I doubt if these are inherently due to the ley as opposed to permanent pasture. From the reading of some of your literature, I doubt if you have the supporting evidence for the case made against the ley as such. I have doubts, for example, as to whether low blood magnesium is an attribute directly due to the ley or whether it is, in fact, due to faulty nutrition; there may be other basic causes. I would doubt, too, if sterility in the dairy animal is a direct effect of nutrition, for the pressure of the last decade to produce winter milk may well be, in itself, a predisposing factor.

Recent "bloat" surveys have shown that bloat tends to be more prevalent on clover-rich pastures and therefore, because on the whole leys are rich in clover, it follows that there is more bloat on leys than on permanent grass. However, bloat *does* occur on pastures containing no clover and occurs on permanent grass as well as on leys. The technician has first to define the facts and to be certain that they are facts which are reproducible at will. I doubt if we know enough about bloat to make any pronouncement. In my experience the clover-rich pasture, whether ley or permanent grass, is one on which to exercise great care at grazing time because it is the type of pasture which tends to bloat. Even if we proved this true, it only raises the problem of how to combat the bad effects of white clover and that at once raises another and worthwhile research problem. Surely, each new piece of knowledge that we gain must create new problems and it is for research, experiment and practical experience to find ways and means of solving the new problems as they arise.

The point I am wanting to emphasise to you, as veterinary surgeons, is that I think it wrong to damn the ley because new problems have arisen due to its use. It would, indeed, be a retrograde step, disastrous for the nation as a whole and for agriculture in particular, if there were a restriction rather than a very large increase of the acreage of grass/clover leys in this country. I think, also, that the criticisms which some in the veterinary profession have made against the ley have already had an adverse effect and have created among many of your farmer clients a spirit of defeatism which is, to say the least of it, an extremely bad thing at the present time.

A point often made in the controversy as between permanent pasture and leys is that leys offer a relatively restricted diet to the animal. It is alleged that a simple mixture of, say, a couple of grasses with one or two clovers does not offer a diet sufficiently varied for the needs of the animal. In this context the rôle of the herb (that is, the non-leguminous, non-gramineous plant) is often quoted as being not only *important* but *essential* in stock nutrition. I am not going to argue that herbs have no value nor even, in the present state of our knowledge, to argue that the herb is not essential. What I would point out, however, is that there is little or no evidence one way or the other. In our trials at the Grassland Research Station we have tested a mixture containing herbs and the same mixture with the herbs omitted. Over a run of three years we have not been able to detect any difference, either in the behaviour of the sheep or in their well-being as judged by live-weight gains. This, however, is simply the outcome of one detailed experiment and needs to be repeated over and over again. The experiment I have quoted, however, has the merit of being the only one that I know which has ever been conducted on a critical basis to determine whether or not the herb is essential as part of a seeds mixture.

Let me outline certain things we know with reasonable reliability concerning the herbs normally found in pastures.

(1) On the whole, herbs are no more rich in protein and have no more starch equivalent than the normal run of grasses and clovers.

(2) The total production of dry matter per acre per annum in most herbs is much lower than in grasses and clovers.

(3) The season of production in the herbs is usually a short one and many of them tend also to be short-lived perennials, at least under grazing conditions. Examples are chicory, ribgrass and sheep's parsley. Some are long-lived perennials (buttercup, daisy and yarrow) under grazing.

(4) The leafy parts of the herb tend, on the whole, to be fairly high in palatability. This is particularly true at certain seasons of the year, *e.g.*, early spring and late autumn. I would not, however, lay too much stress on this point of palatability because, within the range of reasonably palatable species, whether grasses, clovers or herbs, palatability is difficult to determine and, in fact, can change from week to week. When a species is present in a sward in small amount it often proves to be highly palatable, whereas if in dominant quantity it can be of low comparative palatability. A good example is tussac grass *(Deschampsia caespitosa)* acknowledged among the *least* palatable of our British grasses. It is a harsh, coarse plant with a high fibre content, and yet, occasional plants of tussac grass—growing, say, in an otherwise dominant ryegrass/white-clover pasture—are almost always very closely grazed and the tussac plant in such pastures is kept in diminutive condition. I think it is important to draw attention to this point because farmers, and indeed veterinary surgeons, have been known to draw important inferences from the fact that animals on lush pastures will show preference for weeds and even rubbish on field boundaries and in hedgerows. The inference drawn is that these plants are eaten because they are providing some essential need of the animal. While I quite agree with the observations, for there is no doubt that animals do go to the hedgerows, yet I am by no means certain that the deductions are accurate.

(5) On chemical analysis herbs are richer in minerals than the normal run of grass and clover. For example, young leafy grass will contain about 1 per cent. lime and about 0·7 per cent. P_2O_5. Clover leaf will be richer in lime but with about the same amount of P_2O_5. Some herbs will have four times as much lime as the grass and perhaps double the lime of the clovers, while a few of the herbs will be appreciably richer in P_2O_5 than either grass or clover.

In the case of potash, many herbs contain 3 to 4 per cent. of the dry matter whereas grass and clover contain about 2 per cent. of potash. Recent work tends to show that many of the herbs are also quite rich in trace elements though not invariably so. We can, however, accept the chemists' findings, namely, that herbs tend to be rich in the whole range of mineral salts. What is not decided is whether the high content of minerals in herbs is essential for adequate nutrition. So far as one can judge from experimental evidence the normal grass/clover ley provides for the mineral needs of the animal, either for full growth or at high production.

Grass as a Food

Grass can provide the best and the cheapest food for livestock. We have tended to look upon grass as a complete and well-balanced food for the ruminant animal, much as

the medical profession has regarded milk as a food for the juvenile. A good grass/clover mixture is a satisfying food for the ruminant. We must, however, recognise that grass as grazed in the field, even when that grass is at its best, has certain deficiencies and drawbacks. For example:—

(1) It contains too much water.

(2) It has a high protein content with a distinct unbalance of the protein/starch equivalent ratio. Grass and clover are low in soluble starches and sugars. This may be particularly true in the case of autumn and winter grass.

(3) At certain times of the year the fibre content of grass tends to be high even for the ruminant, especially when at high production. At all times of the year grass is too fibrous for the non-ruminant such as poultry or pigs. The animal on lush swards in spring is taking in a great deal of water in grass. It is probably taking in too much protein for its actual needs. Excess protein is used by the animal for energy purposes but we have to ask ourselves what the effect is on the animal that has to deal with excess of nitrogen. Does this overtax the excretory organs which have to get rid of the excess nitrogen from the animal body? The deficiency of starches and other non-structural carbohydrates implies that one major deficiency of grass is its low energy value which puts a ceiling to the amount that animal can produce in terms of meat or milk.

The corrective for this deficiency in quality is clear, namely, that we should be feeding drier material (which can be done by cutting and wilting the grass ahead of the animals). Also we should be feeding low-fibre starchy foods (*e.g.*, cereals) when the animal is at grass. This is particularly true with the high yielding dairy cow. The larger proportion of dairy farmers in this country are feeding protein concentrates to milking cows on grass whereas good grass is already too rich in protein for the needs of even the heaviest yielding cow. What we should be doing is to provide the cow with first-class grazing and to add, say, maize-meal or potato-meal to her diet. High quality grass has enough protein to produce up to 7 gallons of milk per day but only enough starch equivalent to produce some 4 to 5 gallons. If that is so, then we should be feeding starch-rich meals for every gallon above 4 or 5.

G.R.S. Experiments

I propose to end my talk by giving you a short description of some of the work at the Grassland Research Station.

Cattle.—At Drayton we are able to fatten Hereford steers at one or more per acre during the summer months (April to October). We are also able to carry a store beast (8 to 10 cwt.) during the whole winter and at about one beast per acre, on grass without supplementary feed. On grass alone, therefore, at Drayton we are able, not only to fatten cattle, but to keep them on grass all the year round. Our fat cattle have, on the whole, graded off grass in summer at above A+ and about a third of the fat beasts over the last three or four years have been graded at super special (SS). We are now taking our work one stage further and are to study the carcase in order to investigate differences between different types of grasses and contrasting swards. Our meat production per acre is high compared with even the best Midland feeding pastures. We regularly produce between 350 and 400 lb. of live-weight gain per acre and we have produced as much as 554 lb. If we take our average at between 350 and 400 lb. this is higher than the normal production from even the best of the Leicestershire pastures where mature steers are used. Our average represents almost exactly 2 cwt. of consumer meat per acre.

The standard of both grassland and animal husbandry is maintained at a high level. The keeping of cattle at grass for 52 weeks of the year requires careful planning and the use of present-day knowledge to the full. By careful grassland management and the use of two or three contrasting types of seeds mixtures it is possible to achieve this and also to do the animals *well* at all times of the year. As our knowledge extends in regard to seeds mixtures, manuring and grassland management, I think we shall show the way to do even better. During the summer we rely on the usual types of seeds mixtures supported by lucerne leys which ensure that we have green pasturage right through even the driest time. In autumn and winter we graze on ryegrass, cocksfoot, timothy and the fescues, grown in widely spaced (2 feet) drills, and we use the electric fence in order to utilise our grass to the full.

Sheep.—The same sort of story can be told with regard to sheep. We can fatten tegs during the summer and I believe we will be able to fatten them during the winter also, either on grass alone or on grass supplemented by not more than some $\frac{1}{4}$ lb. per head per day of crushed oats: the latter, you will note, purely to correct the deficiency of starch equivalent in autumn grass to which I have referred already.

Poultry.—We have some work with poultry on grass. It would seem that grass will have only a limited food value as grazed directly by poultry. From our present data it would appear that poultry when given access to actively growing grass can make use of that grass up to about one-fifth of their total food requirements. As you will know, grass has a special value for poultry in that it contains minerals and is rich in carotene. This fact is used in commerce when dried grass meal is added to poultry rations. Two major limiting factors as regards grass for feeding to poultry are:—

(1) That even the most succulent grass leaf is far too high in fibre for poultry to make the best use of it. Young grass leaf contains 17 per cent. or more crude fibre. Poultry would deal more effectively with it if the fibre was down to the region of 5 per cent. of the dry matter. Here is a problem for the plant breeder—to produce new types of grass or clover which have a particularly low fibre content in the leaf.

(2) If too much green grass is fed the egg albumen and yolk become green, presumably as a consequence of high intake of chlorophyll. Here is a field of study which needs a great deal of further work.

We are making some attempt to produce fibre-free leaf protein from grass. We macerate the green grass and squeeze out the juice. This is then dried and fed to poultry from the chick stage right up to laying birds. The product we extract as yet is very crude and contains not more than 50 to 60 per cent. of pure protein. The preliminary experiments are showing that this material has a feed value comparable to fish meal. The process of extraction and the tests are in an early experimental stage, but I thought you might like to know in which direction our thoughts are turning.

Pigs.—We have only just begun our experiments with pigs on grass, but from observations it would seem that good young leys will have an important part to play in pig nutrition. From work that Dr. John Hammond, Mr. Frank Garner and others have done in East Anglia and also from some of the work being done in the United States, it

is indicated that the pig can utilise grass to a considerable extent. As with poultry, I believe we shall have to look for new strains of grasses, and particularly of clovers, in which the fibre content of the leaf is much lower than in present-day types. There is a vast field of profitable research open to us and in the grass ley we are offered a crop whose potentialities are tremendous and of which our knowledge is extremely scanty.

I hope I have been able to draw for you a picture of current thought with regard to grassland, and to impress the tremendous importance to the nation of this work. There is a vast amount of research and investigation required, yet we have already knowledge which, if put into practice, could, within a very short period, make a big difference to the output of our agricultural industry. To emphasise this, may I end by quoting you the one farm of Drayton and comparing that farm in 1940 and 1952. In 1940 the permanent grass at Drayton would require at least 5 acres to keep a bullock in store condition during the summer. In 1952 (as in 1951) we shall fatten a beast to the acre on this same land. Before 1940 the yield of wheat at Drayton was between 12 and 18 cwt. per acre. In 1952 I hope to harvest winter wheat and winter oats at the level of well above 30 cwt. per acre. In 1951 our average yield of winter corn was 36 cwt. per acre. In 1950 it was almost 2 tons to the acre, with a top yield of 45 cwt. In short, therefore, each acre at Drayton in 1952 is likely to produce between 8 and 10 times as much grass as in 1940 and between two and three times as much corn. I make no claim that we have done anything out of the ordinary at Drayton. On the contrary, I feel convinced that the putting of modern knowledge into practice on the farms of this country would achieve precisely similar results.

INTERNATIONAL HIDE AND ALLIED TRADES IMPROVEMENT SOCIETY

(Société Internationale pour l'Amélioration des Cuirs et Peaux Bruts)

The annual conference of the I.H.A.T.I.S. was held at Scheveningen, Holland, from July 22nd to 26th, 1952, the principal subject for discussion being the warble fly problem. Remarkable progress towards eradication of warble fly infestation was reported from Denmark and Holland, but the position in some countries, including Great Britain, remains very unsatisfactory. It is hoped to submit a more detailed summary of research on the warble fly that was reported, there having been a separate meeting on this topic of the veterinary and other scientific delegates from the various countries. The proceedings included also a discussion of damage from barbed wire, the merits of dehorning, and the preservation of wet salted skins and other problems relating to curing and storage, papers on these subjects being presented by Dr. H. Phillips and Dr. Mary Dempsey, of the British Leather Manufacturers' Research Association. Mr. E. Knew, of the Sudan Veterinary Service, reported on the hide improvement campaign in that country.

Delegates attended the International Leather Fair in Utrecht and were shown the important new artificial insemination centre nearby, which is under the direction of Dr. K. F. Joling. A number of Dutch veterinarians, including the head of the Government Veterinary Service, took part in the conference.

The following were elected to the Executive Committee for 1952-53: *President*, R. Withinshaw (Great Britain); *Vice-President*, H. Thiefry (Belgium); *Hon. Treasurer*, M. Frisson (France); *Hon. Secretary*, W. G. Maitland (Great Britain), together with M. Pitot (Belgium), W. Freudenberg (Germany) and E. de Smit (Holland).

CLINICAL COMMUNICATION

AMPUTATION OF THE DIGIT IN THE BOVINE

(A Long-standing Case)

HERBERT S. TAYLOR, B.V.Sc., M.R.C.V.S., N.D.A., Ledbury

Subject.—A four-year-old Friesian cow weighing approximately 9 cwt.

Previous History.—The animal had been treated for "foul" in the right hind foot during autumn, 1950. Neither sulphamezathine nor sulphapyridine parenterally had effected a permanent cure.

Examination.—When first seen in March, 1951, the suppurative process was causing severe systemic disturbance, and pus was oozing from two areas on the antero-lateral aspect of the outer claw, above the coronary band. The foot was very painful and much enlarged.

Preliminary Treatment.—The animal's condition was greatly improved by the administration of sulphanilamide orally and poulticing of the foot. The discharge of pus, however, recurred after a month, and it was decided to amputate the outer digit.

Restraint and Anaesthesia.—The cow was cast on a straw bed, by Reuff's method, and chloral hydrate (10 per cent. solution) was given, by slow intravenous injection, into the jugular vein. Assessment of the depth of anaesthesia was made repeatedly during the injection, which was stopped when the stage of light anaesthesia was obtained, *i.e.*, relaxation of the tail and no response to pin pricking of the skin. In all, 35 grammes were injected, over a period of eight minutes.

Complete anaesthesia of the external digit was now obtained by nerve blocking with 5 per cent. "Procaine" as follows:—

1. 10 c.c. were injected on the dorsal aspect of the foot, mid-line, just above the fetlock. This injection was made fanwise in order to allow for any variation in position of the junction of branches of superficial and deep peroneal nerves, and the subsequent bifurcation into the axial dorsal digital nerves of the main digits.

2. 5 c.c. were injected in front of the suspensory ligament, at the same height as injection No. 1, to block the lateral branch of the superficial peroneal, *i.e.*, the lateral dorsal digital nerve.

3. 5 c.c. were injected in the groove behind the suspensory ligament, to block the lateral plantar nerve which runs along the lateral border of the flexor tendons and forms the lateral plantar digital nerve.

4. 10 c.c. were injected in the mid-plantar aspect about 1½ inches above the fetlock, to block the lateral branch of the medial plantar as it runs over the flexor tendons to join the branch of the deep peroneal in the interdigital space, which two nerves together form the axial plantar digital nerves. This injection was also made fanwise. The above technique was adopted after studying the procedure in the foreleg as developed by Wright (1947), and the distribution of the nerves in the hind leg, as described by Sisson (1927).

After a lapse of five minutes there was complete loss of sensation in the lateral digit.

Operation. The foot, propped up on a sack tightly filled with straw, was cleansed thoroughly and sterile cloths were clipped into position.

Circulation in the foot was arrested by means of a tight rubber tourniquet applied in the middle of the metatarsal region.

The primary incision, along a line ½ inch above the skin-horn junction, extended from the dorsal to the ventral aspect of the lateral digit, and was continued vertically at each end for about 1½ inches, incising skin and subcutaneous tissues. With two large vulsellum forceps gripping the freed edge of tissue and drawing it upwards, dissection of a thick flap was carried out. This procedure was rendered difficult because a dense mass of fibrous tissue had taken the place of the normal subcutaneous stroma.

With the flap held back to its fullest extent the amputation was completed by sawing through the lower end of the first phalanx and by making a vertical incision from the interdigital cleft.

Unfortunately, owing to the chronic nature of this case, formation of new bone had continued high up on the first phalanx and although the separation of the bone was performed as high as was possible, it still did not remove all the pathological structure. Having to leave some new and possibly infected bone *in situ* gave cause for concern at this stage.

Haemostasis.—The tourniquet was loosened slightly and haemorrhage from the main vessels was controlled by catgut ligatures. These vessels were found situated as follows:—

Two large arteries in the thickness of the flap: (1) the dorsal proper digital artery—antero-lateral in position; (2) the lateral digital artery—more posterior. Also, a large artery on the axial surface of the removed digit, the lateral plantar digital artery. In addition, several other smaller vessels on this surface were ligatured.

Dressing.—Intramammary procaine penicillin was applied to the wound, especially to the area around the bone and the synovial sheaths.

The stump was packed with cotton wool, bandaged tightly and left for 48 hours.

The cow regained her feet immediately she was released, one and a half hours after induction of anaesthesia.

Instructions were left that the wound be dressed daily for the remainder of the week, starting on the third day, and then on alternate days. The owner was told to watch carefully for evidence of acute pain and presence of pus.

Subsequent History.—The patient remained tender on the affected foot for 10 days, after which time lameness disappeared rapidly. Fourteen days after the operation only slight lameness was noticeable.

The rather long period of pain after the operation (10 days) was thought to be due to the amount of new bone that was still *in situ*.

In the photographs the diseased digit is compared with a normal specimen.

The considerable growth of new bone is clearly shown in contrast to the clean outline of the normal specimen.

The articular surfaces of the corono-pedal joint are completely destroyed, whilst those of the previous joint are badly ulcerated.

Further points of interest are: (1) fusion of the sesamoid to the third phalanx; (2) the deep groove showing position of the flexor tendons on the posterior surface of the bones, and (3) the continuation of new bone formation at the line of division of the first phalanx.

It should be stated that the normal specimen was obtained from a carcase comparable in size to that of the patient.

Remarks.—This case is recorded as being of particular interest because an operation on a very long-standing case has proved to be completely curative.

The writer has failed to find records of such a case in veterinary literature in English.

Fig. 1.—Second and third phalanges, medial aspect.

Fig. 2.—Second phalanx, inferior aspect. Third phalanx, superior aspect.

(*Concluded at foot of col. 1, page 468*)

ANNOTATION

SCRAPIE

Although scrapie has long been known to occur as a serious affection in British sheep stocks, it is still difficult to make any accurate assessment of the economic importance of the disease. This, however, appears to be considerable, for as Gaiger (1924) stated, "In the affected districts the disease is a serious proposition," and, further, "There is some evidence to lead one to think that scrapie occurs in what might be termed waves of infection." Certainly, apart from the loss incurred by the low incidence of the disease which obtains on farms in areas where scrapie is enzootic, the tendency towards a high incidence of cases over a period of years following new outbreaks may render the maintenance of the affected pedigree, or other flock inadvisable or even impossible. The disease occurs in the eastern border counties of Scotland and England but it is known to occur in other areas of Britain, although very often this is not recorded.

The history of the disease in Britain and the conditions of occurrence and spread under natural conditions have been admirably reported by Stockman (1913, 1926), M'Gowan (1914), M'Fadyean (1918), Gaiger (1924) and Greig (1940a). In view of the past history of the spread of scrapie in areas into which it has been introduced, there were few who denied the strong presumptive evidence of the infective nature of the disease.

Early investigators consistently failed to prove directly by inoculation or by contact experiment the transmissible nature of the affection and, possibly because of this, it was generally believed that venereal and congenital transmissions were the chief means of spread. It would be desirable to carry out experiments in matings between affected and healthy animals and it may be because of the difficulties in carrying out such experiments satisfactorily that there is to-day no convincing experimental proof that scrapie may arise as a result of congenital infection.

However, in France, Cuillé and Chelle (1936, 1938), when using scrapie central nervous system tissues as inoculum, succeeded in the experimental transmission of scrapie. Moreover, filtrate inoculum proved effective in producing scrapie, thus incriminating the causative agent as a filterable virus. Also in 1936, Greig obtained experimental evidence that scrapie could be transmitted to sheep through the medium of a "scrapie-contaminated" pasture after protracted periods of incubation (Greig, 1940b). Again, as a result of the accidental contamination of louping-ill vaccine with scrapie material in 1935, the disease in 1937 appeared in the sheep inoculated with this vaccine (Gordon, 1946; Greig, 1950).

These positive contributions to our knowledge of scrapie have acted as the main stimulus to further interest and effort.

Recently, Wilson, Anderson and Smith (1950), continuing previous investigations at Moredun, confirmed scrapie as an infective disease and proved it to be caused by a filterable virus which is capable of being transmitted in series from sheep to sheep. The incubation period following intracerebral inoculation has been usually about five months but in some instances the period has been about four months and, on occasion, between three and four months. Following other routes of inoculation (*e.g.*, subcutaneous, intravenous or intradermal) incubation periods (unpublished work) may be equally short or at times extending to six or seven months.

Evidence concerning the effect of contaminated pasture on the incidence of scrapie has been conflicting. For example, Gaiger (1924) states, "It is proved over and over again that changing the stock gets rid of scrapie, even when restocking is carried out immediately," and Greig (1940a), that, "It is also true that in a considerable number of instances the procedure of complete restocking has failed to eradicate the disease in so far that although it has resulted in a marked reduction in the incidence of scrapie the disease has in due course reappeared and progressively increased in incidence." Neither statement need be questioned for we are still without evidence of the length of time pastures may remain infective. At Moredun, normal animals, comparable in numbers to those of the smaller inoculated groups when grazing the heavily contaminated pasture up to a present maximum period of two and a quarter years, have remained in apparent health. Moreover, whether inoculated sheep are housed in loose-boxes and fed entirely on hay and concentrates or grazed upon "infected" pasture, scrapie develops after about the same period, namely, four to five months.

The inability to infect a small laboratory animal greatly increases the difficulties of scrapie investigation, but it can be said that in recent years our knowledge of the disease has advanced very considerably.

D. R. WILSON

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Berthelon (1950) describes the operation and enumerates the indications, including suppurative and necrotic osteitis, but makes no mention of the extent to which such processes may go and still yield to operation. Although this animal has shown no tendency to relapse in 12 months and was due to calve in June, 1952, it would as a general rule be wiser to operate on such cases before so much reaction has occurred, thus ensuring an easier operation and a better chance of success.

Acknowledgments.—Thanks are due to Mr. Lee, Department of Surgery, Liverpool University, for the photography, and to Miss D. M. Collings for technical assistance at the operation.

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Weekly Wisdom

The advance of science does not always lead to increased certainty in diagnosis and treatment. It may do; but only too often it actually increases the field in which doubt may be legitimately expressed. . . . Whereas most acute diseases can now be cured, the chronic diseases, which usually precede death at an advanced age, can still only be treated; they cannot be cured. The life of the sufferer may be prolonged in a state of "medicated survival."—COLIN WELCH, *Daily Telegraph* (March 19th, 1952).

REVIEW

[The Grass Crop: Its Development, Use, and Maintenance. By William Davies, D.Sc., Director of the Grassland Research Station for Great Britain and Chairman, 1948-52, Special Grassland Working Party of O.E.E.C. Spon Agricultural Series. Published by Messrs. E. & F. N. Spon, Ltd., 22, Henrietta Street, Strand, London, W.C.2. Price 26s.]

This book contains a wealth of information which will be of great value to all interested in grassland development and its future application in the pattern of agriculture, both in this country and overseas. It is an exceedingly well-balanced review of the author's lifelong experience of grassland evolution and utilisation. That experience is world wide and provides the basis of a book the comprehensiveness of which probably renders it unique. The author's endeavour—stated in the preface—is to write of grass and grassland in a manner as simple as possible, and that object has been achieved.

The opening sentence of chapter 1 states: "The agronomic development, ecology, and physiology of the grass-legume sward is obviously of great economic significance the world over." To those who look to grassland development in this country as the only means of ensuring the maintenance and productivity of the national herds and of the fertility of the soil, this book must have great appeal. In those who have not yet interested themselves in grassland development and its full implications in the future of British agriculture, the reading of this book is certain to awaken interest.

The chapters on ley farming, the establishment of the ley and seeds mixtures have special significance in these days and are the measure of the contribution made by grassland scientists to the war-time effort of agriculture, to the post-war effort, and to the future of livestock farming in these islands.

The book analyses each and every factor which may reasonably be expected to have bearing on the grass crop, its place in a planned rotation to build soil fertility, and its capacity to maintain livestock and livestock production. It is lacking in information in respect of the metabolic and other problems which appear to have association with grassland development. (This is a specialist contribution which might well be expected from the veterinary profession.) It further emphasises that innovations in management must occur if the grass crop is to be exploited to the full, and discusses the extension of the grass grazing season by the growing of special purpose leys for out-of-season feeding *in situ*.

It is incumbent on the veterinary profession to be aware of the great progress made by grassland scientists and to bring clinical observation to the elucidation of those problems of animal health which, in some instances at least, may be related to management factors which with fuller co-operation might be more rapidly rectified and, in the future, even foreseen.

The bibliography is extremely interesting and can be of great service to those who wish to secure information in specialist fields. For the veterinary surgeon in these islands in which the grass sward must of necessity form the basis of future farming practice, this book is invaluable.

REPORT

[City of Johannesburg: Report of Director of Abattoir and Live Stock Market Department, July 1st, 1950, to June 30th, 1951.]

The Director is Mr. M. C. Robinson, B.V.Sc., and the Assistant Director Dr. E. J. Pullinger, M.R.C.V.S., D.V.Sc., Dip. Bact. (Lond.). The veterinary staff consists of Dr. P. J. Meara, D.V.Sc., Mr. I. Mowat, B.V.Sc., and two assistant veterinary surgeons in the persons of Mr. R. K. Loveday, B.V.Sc., and A. A. Albertyn, B.V.Sc., both being seconded to the City Health Department on full-time dairy herd inspection. There are 22 non-veterinary meat inspectors as well as stock inspectors and clerical workers, engineers and labourers: in all, about 150 Europeans and 169 natives.

During the year under review 29,521 animals, from horses to goats, passed through the Live Stock Market, whilst 729,112 cattle, sheep, pigs and goats were slaughtered in the abattoirs. Nearly 2,000 tons of meat were condemned for a variety of causes, among which bruising figures largely; this is particularly so for beef, whilst cysticercosis accounts for most of the pig meat condemned. Emaciation, also pneumonia, cause much loss in mutton carcases.

The report mentions that the Meat Scheme whereby the Director of Meat Supplies under War Measures handed over to a Live Stock and Meat Industries Control Board, took effect from September 1st, 1950. The cost of operating the scheme throughout the Union, for the year ending March, 1950, was £727,973. Of this, £660,105 was for distribution costs at controlled centres, and £64,868 for head office administration costs. The expenditure was met from the gross profit of £979,495 from the trading account. Except for contributions to the pensions and provident funds for employees, no direct contribution was made by the State towards the administration of the scheme. The Minister of Agriculture imposed a levy of 2s. 6d. on all cattle slaughtered at abattoirs within controlled areas, from September 1st, 1950. Compensation under this insurance scheme is for meat condemned, calculated at a rate of 25 per cent. lower than the current rate fixed for producer's price of a sound carcase. This scheme applies to all cattle other than calves, animals arriving dead at the abattoir, or arriving in an obviously diseased condition, and casualty-slaughtered animals. In addition to those restrictions upon payment of compensation, there are further checks against any abuse of the scheme. The compensation is payable on any ground on which a dressed carcase is condemned as unfit for human consumption in terms of the Public Health Act, 1919, other than: "Emaciation, dropsy or oedema, septic mastitis or mammitis, tuberculosis in females or entire males, metritis, peritonitis or pleurisy in females, bruising, in the case of a dressed carcase, graded Grade V." "Contracts are under way for modernising the method of manufacturing carcase meal, pig slaughtering and the introduction of electric stunning, de-hairing, blood collection, etc.

Foot-and-mouth disease occurred in January and February, the areas involved being the Kruger National Park, the Magisterial districts of Letaba, Pilgrim's Rest, Nelspruit, and 17 farms and townships in the Barberton district.

Rift Valley fever has been established in several areas of the Union, whereas until this year its presence in the Union of South Africa was unknown. In April, a bull belonging to the Council's Social Welfare department died. The veterinary surgeon in charge of this dairy herd performed the *post-mortem* examination, helped by two veterinary surgeons from the city department. Five days later, all

(*Concluded at foot of col. 1, page 470*)

three veterinary surgeons, as well as a farm worker, reported sick. After detailed examination by the Division of Veterinary Services and the S.A. Institute for Medical Research, the cause of death of the bull, and illness of the personnel, was established as Rift Valley fever. The disease is mosquito-borne, and causes heavy mortality in lambs, being slightly less serious in adult sheep and cattle. In human beings the illness is not of a dangerous nature, the symptoms being similar to those of influenza.

Arrangements have been made to salvage parasitised livers and sell them to a firm manufacturing pharmaceutical products, including folic acid, vitamin B_{12}, liver extract, liver residue for cattle feeds, predigested liver, and whole-liver substance powder.

The city possesses 1,849 mules and horses, and 1,808 cattle. Preventative inoculations were carried out on 180 susceptible birds at the Zoo, for Newcastle disease. Other inoculations on various animals were for quarter evil, contagious abortion, horse sickness and anthrax. The dairy herds visited numbered 1,118, and 57,088 cattle were inspected.

The report is full of useful information on a great variety of activities, and gives extensive tables of the diseases encountered. The Director ends his interesting report, appropriately enough, with a word of thanks to his staff.

D. J. A.

QUARTERLY MEETING OF COUNCIL, B.V.A.

SUMMARY OF PROCEEDINGS

Few meetings of Council in the history of the Association can have settled so many important issues, mainly affecting its organisation and functions, with such despatch yet with adequate debate where required, as that over which Mr. Alan J. Wright presided at the Connaught Rooms, London, W.C.1, on Wednesday, July 23rd, 1952.

Plunged straightway into significant issues on matters arising from the minutes, Council tied up a number of loose ends affecting publication of *The Veterinary Record* and other publications of the Association, by substituting for the existing by-law governing these matters a new one firmly defining the functions and responsibilities of the Editorial Committee and other Committees concerned, with special reference to the avoidance of infringement of the Copyright Act. At the instance of Dr. Montgomerie, Council then gave itself a free hand, from the time of the next annual general meeting, to determine the location of its meetings and those of its Committees as and when it chooses to do so. Next came an interlude, precedent to the discussion of the really big issues of a memorable afternoon, consisting of a series of items of interest, provided with a gracious and pleasing introduction in the intimation, already notified in our columns, of the grant to the Association of Royal Patronage by Her Majesty Queen Elizabeth. Applause was renewed when the Secretary announced that, at 3,775, the membership total exceeded by 35 the highest figure attained in 1951. Then the sad note always sounded by the reading of the obituary list was deepened for many by the reminder that, in the death of Colonel B. L. Lake, who preceded a former President (Major Hancock) as Veterinary Adviser to the R.S.P.C.A., we had lost one who did much to maintain the traditional friendship between that Society and the Association.

Change in Basis of Divisional Representation on Council

Council now was faced with the customary formidable series of Committee reports—the increasingly impressive record of the work of the Association. Of outstanding scope and importance on this occasion was the report of the General Purposes and Finance Committee, and "top of their bill," undoubtedly, in view of the long-standing controversy on the fairest basis of Divisional representation and the optimum size of the Council, was a definite recommendation that a change be made; what is more, Council accepted the proposal with only three dissentients, doubtless from a sense of relief that, at last, something is being done to make the representative body of the Association somewhat less unwieldy. The accepted recommendation, which roughly means a reduction of from 20 to 25 in the number of members of Council and the exclusion of Hon. Secretaries of Divisions as *ex-officio* members (though, of course, they remain eligible for election), was as follows: "That the basis of Divisional representation shall be two representatives for the first 50 members or portion thereof, and thereafter one representative for every 50 members or portion thereof in excess of 25, provided always that the total number of representatives shall not exceed six." As a change in the Association's "Articles" is involved, the recommendation will now be placed for approval before the annual general meeting to be held at Harrogate in September.

Officers of the Association for 1952-53

The year 1952-53 will be memorable in the history of the Association if for no other reason than that it will mark the accession to the presidential chair, for the first time, of a member of the staff of the Animal Health Division of the Ministry of Agriculture and Fisheries in Mr. Alistair M. Graham, Superintending Veterinary Officer. His forthcoming election will symbolise the increasingly valuable liaison between the Association and the Ministry which has replaced the sense of deprivation on both sides engendered by the previous official ban on Ministry staff participating at highest level in the affairs of the Association. For the following year the reins of office will pass from the firm hands of one Scottish graduate to those of another in Mr. Alex. Thomson, practitioner-teacher of Glasgow, who saw the honour of his unanimous recommendation as a recognition of Scotland's efforts for the B.V.A. The other posts remain in well-tried keeping, the full list of recommendations being as follows:—

President: Mr. A. M. Graham.
Senior Vice-President: Mr. A. J. Wright.
Junior Vice-President and President-Elect: Mr. Alex. Thomson (Glasgow).
Hon. Treasurer: Mr. H. E. Bywater.
Hon. Secretary: Mr. H. F. Hebeler.
General Secretary: Mr. F. Knight.
Auditors: Messrs. Fairbairn, Wingfield and Wykes.

Council accepted a recommendation from the General Purposes and Finance Committee that there be granted an application by the S.V.R. Association to be admitted as a Division of the B.V.A., again with only three dissentients.

The Parliamentary and Public Relations Committee announced the appointment of a part-time publicity agent. This Committee has decided that arrangements should be made by the B.V.A. for the drafting of a new Bill to replace the Animals (Anaesthetics) Act of 1919, so hampering to the use and development of modern forms of anaesthesia in animals, and that the framework of the new measure should be the recommendations already made by the Association to the Ministry of Agriculture. Much discussion arose on the Committee's statement that it was "not entirely happy" with the information which the profession was having made available to it concerning foot-and-mouth disease in this country and abroad. Councillors were emphatic that members of the profession should be enabled to speak authoritatively on such matters as the slaughter policy and the demand is to be taken up further with the Chief Veterinary Officer; all with one accord praised the efficiency and devotion of the Ministry's field staff in the current long-sustained outbreak.

Control of Distribution of Certain Veterinary Biological Products

It was announced that agreement had at last been reached between the Association and the National Farmers' Union regarding the list of biological products the distribution of which it had been agreed by the R.C.V.S., B.M.A., Pharmaceutical Society and the B.V.A. should be controlled. These biologicals would thus be administered, prescribed or supplied by the veterinary surgeon at his discretion, but in the case of swine erysipelas serum, where the veterinary surgeon is satisfied that this product is to be used purely as a routine preventive measure, reasonable supplies should be made available to pig-owners if requested.

The Opening of New Clinics

On the report of the Organising Committee, much discussion took place on the opening of new clinics. It was made clear that the only animal welfare society with which the B.V.A. has an agreement is the R.S.P.C.A. The R.S.P.C.A. had adopted an ethical policy on this matter, but only after non-agreement locally was the Arbitration Committee called together, and it took no decisions until careful consideration had been given to the evidence of the parties concerned.

Before the meeting closed, the welcome intimation was given that this year's recipient of the Dalrymple-Champneys Cup and Medal is to be Professor R. E. Glover, of Liverpool University Veterinary School; also that, to ensure them to the Association in perpetuity, Sir Weldon had made these trophies the subject of an endowment: evidence of unremitting interest in the scientific work of the Association and a typical act of generosity to which, doubtless, further reference will be made in due course.

IN PARLIAMENT

Foot-and-Mouth Disease

Foot-and-mouth disease was included in the wide range of subjects covered in the adjournment debates in the House of Commons on Friday of last week.

Mr. Frederick Peart, who raised the issue, referred to the facts that in our own country the number of outbreaks exceeded 500 and that £2,500,000 had been paid in compensation. The position was even worse on the Continent. He knew that the Minister himself was working actively on this and that our own scientists and veterinary staffs, who were the best in the world, were busily engaged on animal disease problems. Was the special Committee, which was to survey the whole problem in the autumn, really enough? He was very glad F.A.O. was shortly to convene a meeting of European countries to implement an international plan of control.

One or two other members having spoken, the Minister of Agriculture (Sir Thomas Dugdale) said that the points raised were suitable points for the Departmental Committee which was to start work in the autumn.

He was glad to be able to say that the position had continued to improve since he last addressed the House on the subject. There were 22 outbreaks of foot-and-mouth disease in the second half of July, compared with 29, 43 and 63 in the previous half-monthly periods. The movement, therefore, was in the right direction.

Outbreaks in the past week had occurred in the infected areas in Dumfries, Cumberland and Kent. The only other infected area now was Devon, where there had been no outbreak since July 17th. The restricted area had, therefore, been contracted in size. The remainder of Great Britain was now free from infection.

From the figures since November 14th last year, when the first outbreak of the present series occurred, there had been 548 outbreaks. This had entailed the slaughter of just over 36,000 cattle, 37,000 sheep and 11,500 pigs. As Members had already indicated, the compensation up to date had amounted to approximately £2,500,000, which, as the House would realise, was by far the largest sum payable in compensation for any comparable period in the history of the disease in this country. That, however, was due to the present relatively high money value of our livestock.

The one exception to the general improvement in Western Europe—and it was serious—was France. According to the latest available figures, the position there was still deteriorating.

The Minister proceeded: "I should like now to refer to the Departmental Committee which, as I have informed the House, will be set up. Hon. Members will not expect me to-day to comment on the criticisms and suggestions that have been made in connection with our policy and procedure for dealing with foot-and-mouth disease. All these matters will come before the Departmental Committee that I have undertaken to appoint. I am, however, very glad to be in a position to-day to inform the House that Sir Ernest Gowers has accepted the chairmanship of this Committee. That, I think, will commend itself to all hon. Members in any part of the House. I cannot yet give the names of the other members, but it is my intention that the membership should be such as to ensure that the whole subject is carefully and impartially examined.

"The precise terms of reference of the Committee have not yet been settled, but they will be such as to require the Committee to review the whole present policy and arrangements for dealing with foot-and-mouth disease in Great Britain, as well as the procedure adopted by the Ministry of Agriculture and Fisheries for applying and carrying them out. We shall, in addition, expect the Committee to take account of the present state of scientific knowledge and the experience gained in recent years in this and in other countries, and we shall look to them for advice on whether any changes should be made in our policy, arrangements or procedure."

Sir Thomas Dugdale added that it was his intention to make the representation as wide as possible, but he wanted to keep down the Committee to reasonable numbers. He hoped that the Committee would be able to begin work by about the end of September.

The House would be interested to know that the Agricultural Research Council had prepared an interim report on the work of the Foot-and-Mouth Disease Research Institute at Pirbright, which had been submitted to the Lord President and himself. Arrangements were being made for publication as early as possible.

There were three international bodies concerning themselves with the control of foot-and-mouth disease in Europe. These were the International Epizootics Office, which was set up in Paris in 1927, the Food and Agriculture Organisation of the United Nations, and the Organisation for European Economic Co-operation. The allocation of responsibilities between these bodies was being defined, but in the meantime they were working together.

"A short time ago," the Minister proceeded, "O.E.E.C. set up a special working party, of which Sir Thomas Dalling, at that time our Chief Veterinary Officer, was Chairman, to study and report on the prevalence of disease of livestock in Western Europe and the methods for its control. F.A.O. and I.E.O. are represented on this working party. The working party decided that foot-and-mouth disease should be given priority and has formulated definite recommendations for the control of foot-and-mouth disease in Western Europe. While fully endorsing the stamping-out methods where applicable, the working party recommended the provision of a central store of efficient vaccines from which supplies could be drawn by any country immediately an outbreak of foot-and-mouth disease was diagnosed. The amount of vaccine stored should be sufficient to supply the needs of all countries for one month.

"The working party also recommended the production and holding of supplies by each country of virus which could rapidly be transformed into vaccine to be available within one month of the beginning of the outbreak. The stored vaccine would meet the immediate requirements, while the vaccine prepared from the stored virus would be ready for use within a month and would be used extensively.

"These recommendations were directed to countries in which foot-and-mouth disease is controlled by either a vaccination policy or a policy of slaughter with vaccination, and do not call for direct action by ourselves in this country. Nevertheless, it is of the greatest importance to us that the recommendations should be energetically followed up, and I can assure the House that Her Majesty's Government will do all they can to ensure this. The recommendations were discussed at a meeting in Paris of Directors of Veterinary Services from most of the countries concerned in May of this year and were finally agreed as a means of controlling the disease.

"At a recent meeting of the Food and Agriculture Committee of O.E.E.C. the recommendations were adopted and a resolution was sent to the Council of O.E.E.C. urging that O.E.E.C. inform the concerned countries of the urgent need for a meeting of representatives to consider the ways and means of implementing the recommendations. At the same meeting it was decided to pass to F.A.O. the duty of ensuring the implementation of the recommended organisation of control of foot-and-mouth disease in Western Europe. Meantime, the European Committee of Agriculture of F.A.O. had also considered the recommendations and had accepted them.

"We are making it abundantly clear through the appropriate channels that Her Majesty's Government are anxious to participate in a high-level meeting at the earliest possible date of representatives of the Governments concerned to consider the implementation of these recommendations and any other measures designed to bring this dreadful scourge under control."

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Questions

Horse Slaughtering (Committee)

Mr. Stokes (July 28th) asked the Minister of Food whether the Committee appointed to examine the conditions of the slaughter of animals for food will have included in its terms of reference the examination of every type of slaughter for food, without exception.

Mr. Peter Freeman (July 28th) asked the Minister of Food the terms of reference and the names of the members of the Committee of enquiry into the protection and safeguarding of horses to be set up by Her Majesty's Government.

Dr. Hill: It is hoped shortly to announce the composition of this Committee and its terms of reference, which will be concerned only

with the slaughter of horses but will not be restricted to their slaughter for food.

Mr. Stokes: Is that really so? Was it not the intention that the examination should concern the slaughter of animals everywhere, for whatever reason, provided it was for food purposes?

Dr. Hill: No, Sir. In the representations made and the Questions asked, the emphasis was on horse slaughter and associated cruelty. The reply which my right hon. Friend the Prime Minister gave was related solely to the question of horse slaughter.

Mr. Stokes: If I put a Question down, will the Parliamentary Secretary ask his right hon. Friend to consider an examination into the slaughter of all animals in this country for food purposes?

Dr. Hill: If there is a sufficiently widespread desire for such an investigation, no doubt my right hon. Friend will consider it.

Mr. Baldwin: Is my hon. Friend aware that there is very close supervision of the killing of all animals other than horses?

Mr. Royle: Would the Minister agree that the time has come when there should be some examination of the methods of religious slaughter?

Dr. Hill: Without notice, I hesitate to answer that question.

Mr. Assheton: Does my hon. Friend think that the question of the slaughter of pigs ought to be investigated again?

Dr. Hill: For the moment, and, I think, with the full sympathy of the House, the Prime Minister has initiated this enquiry into a problem which is disturbing many hon. Members—the slaughter of horses.

Mr. E. Johnson (July 28th) asked the Minister of Food if he will now take adequate steps to ensure that horse meat is not sold as beef or veal in hotels and restaurants.

Dr. Hill: The responsibility for ensuring that the Food and Drugs Act is observed rests not with my right hon. and gallant Friend but with those local authorities who administer the Act.

Mr. Johnson: Is my hon. Friend fully satisfied that horse meat is not being sold as veal or beef in restaurants or hotels? Is he not of the opinion that the possibility of selling horse meat as veal encourages the practice of slaughtering horses in circumstances which have given rise to so much disquiet on both sides of this House?

Dr. Hill: My right hon. and gallant Friend has satisfied himself that the food and drugs authorities are alive to the possibility of this abuse and are watching the position.

Mr. E. Johnson (July 28th) asked the Minister of Food if he will instruct the Committee to be set up on the law relating to the slaughter of horses to consider the advisability of amending the law, so as to require returns to be made to him by local authorities of licences issued for slaughterhouses, in order that a central record might be available.

Dr. Hill: My right hon. and gallant Friend will bring this suggestion to the notice of the Committee.

Mr. Johnson: Would my hon. Friend not agree that a central record of slaughterhouses is essential in order to be able to track down those people who are killing horses under the most cruel circumstances, and also to check the sale of horse meat as veal, which nobody else is satisfied is not happening, even if my hon. Friend is?

Dr. Hill: As the Committee has been established to survey this field, I think my hon. Friend would agree that it is appropriate to bring this suggestion to their notice.

Lieut.-Colonel Lipton: Will the Parliamentary Secretary also bring to the notice of the Committee a suggestion I have made on one or two occasions, namely, that the price of horse meat retailed for public consumption should be brought under control?

Dr. Hill: Yes, Sir.

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Slaughter of Animals

Mr. Stokes (July 31st) asked the Minister of Food whether he will set up a committee to examine the conditions governing the slaughter of animals for food, in addition to that being set up by him to examine the slaughter of horses.

Major Lloyd George: No.

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Pit Ponies

Mr. Anthony Greenwood (July 28th) asked the Minister of Fuel and Power what steps are taken to supervise the conditions under which pit ponies are employed.

Mr. Geoffrey Lloyd: The care and treatment of pit ponies are regulated by the Third Schedule to the Coal Mines Act, 1911, as amended by the Coal Mines (Horses) Regulations, 1949. These Regulations are supervised by seven horse inspectors who devote their whole time to this work, as well as by other members of the mines inspectorate who give part of their time to it.

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Sea Transport Order (Horses)

Lieut.-Colonel Bromley-Davenport (August 1st) asked the Minister of Agriculture whether, in view of the provision of paragraph 8 of the Horses (Sea Transport) Order, 1952, which imposes a prohibition on the embarkation of horses if suffering from infirmity, illness, injury, fatigue or other causes, he will take steps to issue a directive to port veterinary inspectors indicating that this prohibition should be held to include the embarkation of unbroken horses, except foals at foot, cast pit ponies and blind horses.

Sir T. Dugdale: No. Under the Diseases of Animals Act, 1950, no horse may be exported from Great Britain unless it is capable of being worked without suffering; and in addition no draught horse, vanner, mule or jennet may be exported unless its value is at least £75. The purpose of the Order to which my hon. Friend refers is to protect horses from unnecessary suffering while in transit by sea. I am advised that pit ponies and blind horses are not liable to any more disturbance by a sea passage than other horses, and I see no reason for a general prohibition of their transport by sea. The same applies generally to unbroken horses. Some unbroken horses may be difficult to embark, but I have no reason to suppose that the officers of local authorities who are responsible for enforcing the order would not prohibit the embarkation of any horses when they considered this necessary to prevent suffering.

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Milk (Pasteurisation)

Mr. Russell (July 28th) asked the Minister of Food what proportion of milk produced is pasteurised; how much of this is mixed with non-pasteurised milk before sale; and what improvements he anticipates in the proportion of pasteurised milk in the future.

Dr. Hill: A total of 82 per cent. of all milk sold in the liquid market in England and Wales and 73 per cent. in Scotland is already pasteurised or sterilised, and these percentages will gradually be improved. None of this milk is mixed with other milks before sale.

NOTES AND NEWS

Diary of Events

Aug. 13th.—Meeting of the Editorial Executive Sub-committee, B.V.A., at 36, Gordon Square, W.C.1, 2.30 p.m.

Sept. 3rd.—Joint Meeting of the South Eastern and Sussex Divisions, B.V.A., at the Wellcome Veterinary Research Station, Frant, Tunbridge Wells, 6 p.m.

Sept. 7th—13th.—Seventieth Annual General Meeting and Congress of the British Veterinary Association, at Harrogate.

Sept. 24th.—Meeting of the R.A.V.C. Division of the B.V.A. at the Equine Research Station of the Animal Health Trust, Newmarket, 11.15 a.m.

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B.V.A. Congress at Harrogate

Application for Tickets

Application forms for tickets required in connection with the forthcoming Congress of the Association to be held at Harrogate in September were issued with last week's number of *The Veterinary Record*. As indicated thereon, applications should be received by the General Secretary not later than August 18th. It will be a great convenience, however, if application for tickets is made as soon as possible before that date.

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Congress Golf Competitions

Those wishing to enter the competition for the "Simpson" Trophy and the Ladies' Competition for the "Dunkin" Trophy are requested to notify Mr. J. O. Powley, M.R.C.V.S., 99, Station Parade, Harrogate, who is in charge of the arrangements.

Sale of Dairy and Store Cattle at Markets

RECOMMENDED CONDITIONS

Many of our readers will be interested to learn that a booklet detailing Conditions of Sale for Dairy and Store Cattle at Markets has now been published by the Chartered Auctioneers' and Estate Agents' Institute. These Conditions have been approved by the Institute, the Incorporated Society of Auctioneers and Landed Property Agents, the National Farmers' Union of England and Wales, and the British Veterinary Association, and they are recommended by these four bodies for use at cattle markets in England and Wales.

The publication of the Conditions is the outcome of a long period of careful and patient study by a Sub-committee of the Institute consisting of leading livestock auctioneers from different parts of the country under the chairmanship of Major Richard M. Woolley, C.B.E., and of friendly co-operation with the other three bodies mentioned above. The Conditions in the form in which they are now published have been settled by Counsel.

The four bodies whose names appear on the Conditions hope that they will be widely used and that they will come to be regarded as the standard form of Conditions for dairy and store cattle. It is recognised that in some cases local circumstances may require the addition of Special Conditions and it is expressly provided that in the case of pedigree cattle the present Conditions apply, except where they may conflict in any respect with any Special Conditions applicable to the sale of such cattle, in which case the latter shall operate.

Copies may be obtained direct from the Institute at 29, Lincoln's Inn Fields, London, W.C.2, at the price of 1s. each.

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PERSONAL

Honorary Veterinary Surgeons to the Queen

The list of appointments to Her Majesty's Household published as a supplement to the *London Gazette* on Tuesday last included those of Captain Thomas Lewis Wright, M.R.C.V.S., of Putney, and Mr. Edmond Scott Paterson, M.R.C.V.S., of Windsor, as Honorary Veterinary Surgeons.

Glasgow Veterinary Student Hurdler at Helsinki

As most past and all present students of the University of Glasgow Veterinary School are well aware, in David Gracie, a student, the College possesses an athlete of international fame. Gracie, who served in the Royal Marines, is 25 years of age and over 6 feet tall. He is Scottish Universities champion—quarter mile hurdles; Scottish quarter mile (flat) and quarter mile hurdles champion. In winning the quarter mile hurdle event in the International match between Scotland and England at the White City this year, Gracie covered the distance in the fastest time ever done by a British athlete in this country (52·6 secs.). His time at the Olympic Games at Helsinki of 52·4 secs. in the 400 metre hurdles would have placed him fourth in the final had he not been unfortunate in being drawn in the fastest heat. Although Gracie has been hurdling for only a little over a year, he is now reckoned to be among the top six 400 metre hurdlers in the world and hopes to bring his time down to 51·5 secs.

Jumping Success Gives Britain Her Only Gold Medal.—By her final effort in the last competition of the Olympic Games Great Britain gained her only gold medal at Helsinki on Sunday last, when Colonel H. M. Llewellyn on Foxhunter, Lieut.-Colonel D. N. Stewart on Aherlow, and Mr. W. White on Nizefella gained an exciting triumph in the team section of the Prix des Nations. A faultless finishing round by Colonel Llewellyn on Foxhunter gave Great Britain the lead over Chile, who beat the United States. We hope to publish a special report on the equestrian section of the Olympic Games in an early issue.

Birth.—Wilmot-Smith.—On May 12th, 1952, at Kirkby Lonsdale, Westmorland, to Rosalys and Patrick Wilmot-Smith, M.S.R.C.V.S., of Pontefract, a son.

Marriage.—Malone—Smiley.—On July 30th, 1952, at Spa Presbyterian Church, Ballynahinch, Co. Down, Gerald S. R. Malone, B.SC., M.R.C.V.S., to Margaret M. Smiley. John P. Malone, B.SC., was best man.

GENERAL OBITUARY

Mr. T. J. Sutton, M.B.E.

An Old-time R.A.V.C. Quartermaster

Many members of the profession who have served in the R.A.V.C. will learn with regret of the death of Mr. T. J. Sutton on May 22nd, 1952, and we are indebted to Mr. George Atkinson, M.R.C.V.S., of Exeter, for sending us the following extract from an obituary notice in the *Bournemouth Daily Echo*:—

"R.S.M. Sutton, who was a member of the Yeoman of the Guard up to the time of his death, took part in Queen Victoria's Diamond Jubilee parades in 1897, and in the same year embarked for India with the Royal Horse Artillery. He served in the Boer War, receiving the Queen's and King's Medals with seven clasps. On returning to Britain he transferred to the Royal Army Veterinary Corps, which he represented at the opening of the Union Jack Club by King Edward VII.

"In 1910 Mr. Sutton again went to South Africa. In 1915 he went to France, where he was mentioned in despatches and granted a commission: In 1917 he was appointed Adjutant and Quartermaster to the School of Farriery, Aldershot, and early in 1918 he embarked for Mesopotamia, taking part in operations connected with the Arab Rising in 1920, and again being mentioned in despatches and awarded the medal with Iraq clasp and the M.B.E.

"On return to England for demobilisation in 1920 he enlisted in the Territorial Army and served as an instructor for about six years.

"He was appointed to the King's Bodyguard in 1927 and took part in the Silver Jubilee celebrations, subsequently doing duty at the lying-in-state of King George V. Later, he acted as guard to the Royal Crown at the opening of Parliament by Edward VIII and took part in the Coronation parade of George VI.

"On the outbreak of the last war this fine old soldier joined the Home Guard and became R.S.M. of the 26th Battalion. In 1943 he was awarded the certificate for excellent service, which was presented to him by Sir Douglas Brownrigg, and in 1946 he received the Meritorious Service Medal."

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New Veterinary Centre Inaugurated Near Bristol

Honorary Degrees Conferred at the University

On Tuesday, July 29th, Sir Thomas Dugdale, Minister of Agriculture, opened the new veterinary laboratories and field station of Bristol University at Langford House, Langford, Somerset. They are a first step towards the establishment of a veterinary centre to serve the South-West, which eventually will include three veterinary organisations: the Ministry's Veterinary Advisory Service, the Somerset Cattle Breeding Centre, and the University of Bristol field station.

Before the opening ceremony the Minister was present at the Great Hall of Bristol University, when the Honorary Degree of D.Sc. was conferred on Sir Thomas Dalling, Chief Veterinary Consultant to F.A.O., Rome, and Past-President of the Royal College of Veterinary Surgeons, and on Professor J. G. Wright, Professor of Veterinary Surgery in the University of Liverpool and President of the R.C.V.S. They received their degrees from Sir Philip Morris, the Vice-Chancellor of Bristol University.

A full account of these proceedings will be published in an early issue.

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N.A.P.T. THIRD COMMONWEALTH HEALTH AND TUBERCULOSIS CONFERENCE

The third Commonwealth Health and Tuberculosis Conference organised by the National Association for the Prevention of Tuberculosis was held at the Central Hall, Westminster, from July 8th to July 11th inclusive, over 800 representatives from 51 countries being present.

On Wednesday, July 9th, the morning session was concerned with prevention and care work by local health authorities and with protective vaccination. The session was opened by Mr. Iain Macleod, Minister of Health, who gave some figures showing the striking progress made in the campaign against tuberculosis in recent years. In 1951 the number of deaths from the disease was the lowest on record—275 per 1,000,000 against 1,100 in the first decade of the century—and the rate of progress was getting faster. In the last three years the reduction in tuberculosis mortality was as much as one-third. Over 6,000 more beds had been made available for tuberculosis treatment since the National Health Service began, and the number of patients waiting for beds had been reduced from 11,000 in 1949 to about 7,000. But these figures gave no ground for complacency, for there was now on the horizon a possibility of success which would only have seemed a dream to the founders of the N.A.P.T. Referring to BCG vaccination, Mr. Macleod said, "It is not yet felt that the time has come to make

the vaccine available for general or indiscriminate use among the population at large. This view, though it may be thougnt unduly restrictive by some, is based on responsible expert judgment, and is not due to limitations of supply of the vaccine or to financial economy. Neither is it necessarily a fixed policy. My Ministry will take careful account of whatever expert advice may be forthcoming in the light of continuing study and research."

Non-respiratory Tuberculosis

The Chairman of the session on Non-respiratory Tuberculosis including Bovine Infections and their Results was Sir Robert Young, Vice-Chairman, N.A.P.T. Council. In introducing the session Sir Robert said that he had seen so many sad cases of tuberculosis of these types that he welcomed a discussion on the subject. Dr. Charles Hill, Parliamentary Secretary to the Ministry of Food, in discussing the question of bovine infection, spoke of the two parallel lines of attack: the long-term policy of the eradication from herds of reactors to tuberculin testing, and the short-term policy of making milk safe by pasteurisation and sterilisation. Dr. Hill said that, with regard to the elimination policy, it might not be long before areas were designated as eradication areas, and that in the meantime one-third of the total number of cattle were now attested and 80 per cent. of milk was heat-treated. By 1959 almost the whole country would be covered by the Special Designations Act and from 1954—a most important point—pasteurisation would include bottling and sealing where pasteurised, thus avoiding all human infection. He was very glad that to-day the old controversies of eradication versus pasteurisation and of heat-treated versus raw milk had died down—it was now agreed that there were diseases conveyed by milk which were preventable and therefore should be prevented, and the only problem was whether the rate of progress was fast enough. Professor Selby Wilson read a most interesting paper, putting the whole subject of bovine infection in its historical perspective. He recounted the great struggles of the late 19th and first half of the 20th century to prove, first, that tuberculosis of the bovine type could occur in man: "the cow was one of our worst enemies as well as one of our best friends," and, secondly, that heat-treated milk destroyed infection but not nutritive value, a struggle which was ended by the compulsory pasteurisation act of 1948. Mr. Harold Woolley, of the National Farmers' Union, dealt in a very practical way with the considerations involved in building up a tuberculosis-free herd and eradicating reactors. He discussed questions of expense, buildings and testing and said that he was convinced that in the long run the eradication of tuberculosis from herds would prove a sound investment from an economic standpoint as well as from that of public health. Mr. David Barbour, Ministry of Agriculture and Fisheries, described the progress of the Attested Herds Scheme—the number of these herds in 1952 was almost double that in 1949. Mr. Barbour then gave particulars of the new plan for attested areas, which if necessary would later become eradication areas.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax:

Cheshire.—Hanns Hall Farm, Willaston, Nantwich (carcase at "Leahurst" Veterinary Field Station) (July 31st).
Dorset.—Hillview Dairies, Okeford-Fitzpaine, Blandford; "White Hart," Bishops Caundle, Sherborne (July 28th).
Kent.—Bockingfold Farm, Goudhurst (July 31st).
Norfolk.—Mill Farm, Ormesby St. Margaret, Gt. Yarmouth (July 28th); Home Farm, Letton, Shipdham, Thetford (July 29th); Street Farm, Acle, Norwich (July 31st).
Oxon.—Upper House Farm, Haupsden, Henley-on-Thames (July 29th).
Somersetshire.—Miners' Arms, Priddy, Chewton Mendip (July 31st).
Southants.—Wootey's Allotments, Alton; New Lodge Farm, Over Wallop (July 31st).
Sussex (W.)—Haylands Farm, Graffham, Petworth (July 25th); Upper Frithfold Farm, Northchapel, Petworth (July 29th).
Yorks (W.R.).—Adcock Bank Farm, Troydale Lane, Pudsey, Leeds (July 29th).

Foot-and-Mouth Disease:

Cumberland.—Rose Cottage Fields, Linstock, Carlisle (July 29th); Oak House, Linstock, Carlisle (Aug. 4th).
Dumfriesshire.—Cotland, Tinwold, Dumfries (July 30th); Cormaddie, Auldgirth, Dumfries (July 30th); McWhanrick, Holywood, Dumfries (Aug. 1st).
Kent.—Parsonage Barn Farm, Ashford (Aug. 4th).

Swine Fever:

Derbys.—Highfield Allotments, Chesterfield (Aug. 2nd).
Lincs (Holland).—73 Holding, Sutton Marsh, Spalding (July 28th); Lade Bank, Old Leake, Boston (July 29th).
Surrey.—18, Croydon Lane, Banstead (July 29th).
Warwicks.—Acorn Farm, Arley (July 28th); 6, School Lane, Galley Common, Nuneaton (July 29th); Finham Sewage Works, Stoneleigh, Coventry (July 30th); Lower Eastern Green Lane, Coventry (July 31st); New House Farm, Hill Wootton (Aug. 1st).
Worcs.—The Horns, Bromyard Road, Tenbury Wells (July 31st).

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

POST-GRADUATE TRAINING

Sir,—Your editorial of July 26th on "Veterinary Parasitology and Tropical Medicine" directs attention to the urgent necessity for the reintroduction of a course of instruction and a qualification in tropical veterinary medicine.

There is no doubt in my mind that if the profession is to play its full part in the development of food resources abroad every effort should be made to that end. Great and praiseworthy advances are being made on the agrarian side of tropical agriculture and it would be tragic indeed if the veterinary profession were to find itself ill-equipped to take its rightful place in the related livestock industry developments.

There is, however, another aspect which is not brought out in your editorial but which is perhaps worthy of mention.

The marked influence which British veterinary science has in many countries abroad arises often from the fact that the leaders of the profession in those countries undertook graduate or post-graduate training here. Such men are usually strongly Anglophile and wish to further relations with us by having their most promising students do likewise. On my travels I have had many discussions with such people on this matter and have referred specific requests for the reintroduction of post-graduate training to the R.C.V.S. so far, unhappily, without result.

One appreciates the present difficulties of the veterinary schools in accepting as undergraduates considerable numbers of students from overseas, but whatever the circumstances it is an unhappy fact that many countries which looked first to Britain as a training ground for their senior veterinarians are now perforce having to look elsewhere. That such a state of affairs exists should be a matter of concern not only to the profession but to the nation at large.

Reintroduction of the course of instruction and qualification in tropical veterinary medicine would go far to deal with the situation.—Yours faithfully, D. D. Ogilvie, *As from* "Corbiere," Kings Road, Sale, Cheshire. *July 25th*, 1952.

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THAT SLANG TERM "VET."

Sir,—I quite agree with your correspondent Mr. Tutt when he says "as long as the profession continues to exist, its members will be referred to under the above term;" of course they will, if we all take it lying down as Mr. Tutt appears to do. But if this line of least resistance were adopted by us all, where would the status of our profession be to-day? We owe it as a duty to our calling to leave it better in every way than we found it. If, then, a profession is branded by a slang term, the slur takes much living down, and I submit each and all of us should make it our bounden duty in season and out of season to register our protest in the strongest possible terms.

When occasions have arisen I have written letters of protest to editors and correspondents where the term has appeared in print, and in each and all I have received their sympathetic support and thanks. We should be better able to pull our weight if more of us did the same. These editors use the term in *ignorance* and not as a reflection upon our calling—surely, then, it is up to us all to educate the ignorant.—Yours faithfully, W. M. Scott, Fryern Hall, Bridgwater. *July 28th*, 1952.